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10/603,863	06/26/2003	Bong-Hwoan Choi	1293.1758	1435

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EXAMINER
LAMB, CHRISTOPHER RAY

ART UNIT	PAPER NUMBER
2627	

DATE MAILED: 06/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/603,863	CHOI, BONG-HWOAN	
	Examiner	Art Unit	
	Christopher R. Lamb	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13,18 and 24-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13, 18, and 24-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 24-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Okamoto et al. (US 5,696,744).

Regarding claim 24:

Okamoto discloses a method of identifying a type of an optical disc in a disc drive (here Okamoto's fifth embodiment is used), comprising:

moving a focus lens through an operating range (column 12, lines 1-8: this is a part of searching for the focus position);

measuring a focus error while moving the focus lens (column 12, lines 1-8; that this is part of searching for the focus position is described in column 5, lines 13-25);

comparing a peak-to-peak value of the measured focus error to a reference value (it checks the discrimination signal Sok, in column 12, lines 1-8; that signal is determined by comparing the peak-to-peak value of the focus error to a reference value: column 5, lines 42-57); and

determining that the optical disc is a 12 cm standard disc if the peak-to-peak value is greater than the reference value or that the optical disc is an 8 cm fashion disc if the peak-to-peak value is less than the reference value (column 12, lines 1-8).

Regarding claim 25:

Okamoto discloses operating the disc drive according to the determined type of the optical disc (column 12, lines 9-12).

Regarding claim 26:

Okamoto disclose moving a pickup to the periphery area of the optical disc to measure the focus error (column 11, lines 63-67).

Regarding claim 27:

Okamoto discloses wherein moving the focus lens through the operating range comprises moving the focus lens up and down (column 5, lines 26-57).

Regarding claim 28:

Okamoto discloses adjusting operating parameters of the disc drive consistent with the 8 cm fashion disc (column 12, lines 9-12).

Regarding claim 29:

Okamoto discloses storing operating parameters to drive the 8 cm fashion disc; wherein the adjusting the operating parameters comprises adjusting the operating parameters based on the stored operating parameters (inherent to Okamoto's disclosure of setting the disc in a "mode appropriate for reproducing an 8 cm CD," column 12, lines 9-12).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

> invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1 -13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto et al. (U.S. Patent 5,696,744).

Regarding claim 1:

Okamoto discloses a method of detecting an optical disc (the "fourth method" disclosed as prior art: column 1, lines 55-56), comprising:

detecting a size of the optical disc inserted in an optical disc drive by sensing a weight of the optical disc and driving the optical disc drive (column 1, lines 52-54: the weight determines the activation time noted by Okamoto);

determining the size of the optical disc by detecting an amount of data recorded on the optical disc from a lead-in area of the optical disc (column 1, lines 47-50);

This method described by Okamoto does not include "if the amount of data recorded on the optical disc, the size of which has been determined, is below a reference value, moving a pickup to a periphery area and measuring a focus error; and if the measured focus error is above a constant value, detecting the optical disc as a certain optical disc type and limiting the operational speed level of the optical disc drive."

Okamoto discloses that this method fails when a short program is recorded on a long disc (column 1, line 65 to column 2, line 11).

Okamoto discloses moving a pickup to a periphery area and measuring a focus error, and if the measured focus error is above a constant value, detecting the optical disc as a certain optical disc type (column 3, lines 54-61; Okamoto's "whether focus

control is performed or not" is equivalent to comparing the measured focus error to a constant value) and limiting the operational speed level of the optical disk drive (column 1, lines 29-37, where adjusting the gain is comparable to limiting the operational speed level).

It would have been obvious to one of ordinary skill in the art at the time of the invention to take the prior art methods disclosed by Okamoto and modify them as taught by Okamoto to include if the amount of data recorded on the optical disc is below a reference value, moving a pickup to a periphery area and measuring a focus error, and if the measured focus error is above a constant value, detecting the optical disc as a certain optical disc type and limiting the operational speed level of the optical disc drive.

The motivation would have been to improve the reliability of the method (Okamoto discloses that the method fails when a short program is recorded on a long disc; thus, when a short recording time is detected, it would have been obvious to add a backup method such as the one proposed by Okamoto).

Regarding claim 2:

Okamoto discloses wherein the optical disc detecting according to the weight thereof is either a standard disc having a diameter of 12 cm or a fashion disc having a diameter of 9 cm (column 1, lines 16-17).

Regarding claim 3:

Okamoto discloses wherein the optical disc determined according to the amount of data recorded on the optical disc is any one disc among a standard disc having a diameter of 12 cm on which data is fully recorded, a standard disc having a diameter of

12 cm on which data is partially recorded, and a fashion disc having a diameter of 8 cm (that it can be 12 cm or 8 cm is disclosed in column 1, lines 16-17; that it might be a larger disc in which data is partially recorded is disclosed in column 1, lines 64-66).

Regarding claim 4:

In Okamoto the certain optical disc type is a fashion disc having a diameter of 8 cm (column 3, lines 54-62).

Regarding claim 5:

In Okamoto if the measured focus error is below the constant value, the optical disc is detected as a standard disc having a diameter of 12 cm (column 3, lines 54-62) on which data is partially recorded (since the modified method of Okamoto first checks the length of recorded data, it can distinguish between a partially recorded and fully recorded 12 cm disc).

Regarding claims 6-10:

These are apparatus claims corresponding to the method of claims 1-5, and are thus rejected for the same reasons.

Regarding claims 11-13:

If the disc measured by the method of Okamoto is full, the amount of data recorded on the optical disc is equal to the data recording capacity of the optical disk. Thus these claims are rejected for the same reason as the previous claims.

Regarding claims 18:

If the disc measured by the method of Okamoto is full, the amount of data recorded on the optical disc is equal to the data recording capacity of the optical disk.

Thus these claims are rejected for the same reason as the previous claims. Note also that Okamoto discloses changing the speed level of a disc based on the size (column 1, line 29-37).

Response to Arguments

5. Applicant's arguments, see page 8, filed May 10th, 2006, with respect to the rejections of claims 24-29 under Kim (US 2003/0174617) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new rejection is made in view of Okamoto et al. (US 5,096,744) as described above.

6. Applicant's arguments filed May 10th, 2006, with respect to claims 1-13 and 18 have been fully considered but they are not persuasive.

Regarding claims 1-5 (pages 9-10):

a. Applicant has argued that Okamoto does not sense the weight of the optical disc. It is true that Okamoto does not specifically mention the weight, but sensing the weight is inherent to the method disclosed by Okamoto in column 1, lines 52-54. Okamoto counts the time required for the disk to speed up to a certain rotation speed. The only variable that affects this time is the weight of the disk, so Okamoto is inherently sensing the weight of the disc through this method. (For more detail, see for example, Son et al., US 5,644,561, abstract, cited in the previous action; although Son is referenced here for instructive purposes, it is not necessary for the rejection because sensing the weight is inherent to Okamoto's method).

b. Applicant has argued that in Okamoto the focus error is not compared to a constant value, but instead Okamoto uses a discrimination signal. However, the discrimination signal of Okamoto is determined based on comparing the focus error to a constant value (Okamoto, column 5, lines 42-57).

c. Applicant has argued that Okamoto does not disclose "a fashion disc having a diameter of 8 cm." Okamoto discloses a disc having a diameter of 8 cm (column 1, lines 16-17, etc., etc.). The Examiner considers this to be a "fashion disc," as the Applicant has defined fashion discs as discs "having diameters of 8 cm and various shapes" (paragraph 5), so even if Okamoto's disc is presumed to be circular it still falls within this definition.

Regarding claims 6-10 (page 10):

These arguments are similar to the arguments made for claims 1-5 and are not persuasive for the same reasons. With respect to the argument specifically directed at claim 10, it is no different than the Applicant's argument regarding the constant value discussed in part b of claims 1-5.

Regarding claims 11-13 (page 11):

The weight argument is similar to the argument above and has already been discussed. With respect to claim 12, Okamoto discloses reading a data capacity of the disc from the lead-in area (column 1, lines 47-50).

Regarding claim 18:

This is similar to the constant value argument made with respect to claim 1 and is thus not persuasive.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 5/24/06

THANG V. TRAN
PRIMARY EXAMINER